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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,107	04/20/2000	Edward S. Ellis	GJH-0018	4538
27810	7590	02/11/2004	EXAMINER	
EXXONMOBIL RESEARCH AND ENGINEERING COMPANY P.O. BOX 900 1545 ROUTE 22 EAST ANNANDALE, NJ 08801-0900			JOHNSON, JERRY D	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/553,107	<b>Applicant(s)</b> ELLIS ET AL.	
	<b>Examiner</b> Jerry D. Johnson	<b>Art Unit</b> 1764	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-13,15,16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-13,15,16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-13, 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al. in view of Cherpeck.

Harrison et al, U.S. Patent 5,292,428, teach a process wherein hydrocarbon feedstock is passed through two or more hydrodesulfurization zones and connected in a series each containing a packed bed of solid catalyst. The liquid is passed from the first zone to the next until the final zone. Make up hydrogen is supplied to a hydrodesulfurization zone (i) other than the first hydrodesulfurization zone; hydrogen-containing gas is recovered from each hydrodesulfurization zone. The first hydrodesulfurization zone is supplied with hydrogen-containing gas recovered from a subsequent hydrodesulfurization zone (abstract). If the feedstock is, for example a diesel feedstock then the reaction conditions used in the process will typically be chosen to reduce the residual sulphur content to about 0.5 wt % S or less, e.g. about 0.3 wt % S or less, even down to about 0.05 wt % S or less and to reduce the aromatics content

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to about 27 volume % or lower, e.g. to about 20 volume % or less (column 9, lines 35-41).

There will be used an amount of hydrogen which is equivalent to at least the stoichiometric amount of hydrogen required to desulphurise the feedstock and to achieve the desired degree of dearomatisation. Normally it will be preferred to use at least about 1.05 times such stoichiometric amount of hydrogen (column 10, lines 3-9). The process can be carried out in a plant having two hydrodesulphurisation zones or in one having more than two such zones, for example 3, 4, 5, or more (column 10, lines 22-25). Different hydrodesulphurisation conditions may be used in different zones (column 10, lines 26-65). In column 18 of Harrison et al, Tables 1-3, heavy gas vacuum oil feedstock having 2.23 weight % sulphur content is converted to a product having 31 ppm S and 15.9 vol % aromatics. While Harrison et al. teach processing hydrocarbon fractions derived from, *inter alia*, middle distillates, lube oil brightstocks diesel fuels, light fuels oils, and the like (column 12, lines 39-43), Harrison et al. do not disclose the addition of functional additives to the processed hydrocarbon.

Cherpeck, U.S. Patent 5,516,342, teaches that it is well known that automobile engines tend to form deposits on the surface of engine components and that fuel detergents or "deposit control" additives to prevent or control such deposits are known in the art (column 1, lines 14-26).

Claims 13 and 15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pedersen.

Pedersen, U.S. Patent 6,461,497 B1, teaches a reformulated diesel fuel for a low-sulfur No. 2 diesel fuel providing reduced emission benefits (column 4, lines 23-28). The fuel has an aromatics content less than about 15 volume percent (column 5, lines 16-19). The fuel has a low

sulfur content which is suitably less than 15 ppmw but is preferably less than 10 ppmw and desirably less than about 5 ppmw (column 5, lines 30-32). The content of polycyclic aromatics is very low. Typically, the polycyclic aromatics content is no greater than about 1.5 weight percent and is desirably from about 0.1 to about 1.45 weight percent. Even more desirably, the polycyclic aromatic content is less than 1.0 weight percent (column 5, lines 39-42). The fuel desirably has a 10 volume percent boiling point of at least 430°F. and preferably from about 430 to about 450°F. (column 5, lines 56-58). Accordingly, Pedersen discloses a diesel fuel composition which reasonably appears to be the same or an obvious variation of the instantly claimed diesel fuel composition. Applicants' claims if not anticipated by 35 U.S.C. § 102, would be obvious under 35 U.S.C. § 103.

Applicant's arguments filed November 13, 2003 have been fully considered but they are not persuasive.

Applicants argue that claim 1, as amended, requires that at least a portion of the liquid product stream exiting the separation zone, step (e), be combined with at least one of (i) one or more lubricity aid, (ii) one or more viscosity modifier, (iii) one or more antioxidant, (iv) one or more cetane improver, (v) one or more dispersant, (vi) one or more cold flow improver, (vii) one or more metals deactivator, (viii) one or more corrosion inhibitor, (ix) one or more detergent, and (x) one or more distillate or upgraded distillate; which is neither taught nor disclosed in Harrison. (Remarks, page 8). Applicants' argument lacks merit.

Harrison et al. teach processing hydrocarbon fractions derived from, *inter alia*, middle distillates, lube oil brightstocks diesel fuels, light fuels oils, and the like (column 12, lines 39-43). It is extremely well known in the art to add a functional additive to middle distillates, lube

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oil brightstocks, diesel fuels, light fuels oils, and the like in order to improve one or more properties of the basestock. To this end, Cherpeck, U.S. Patent 5,516,342, has been cited as teaching that it is well known that automobile engines tend to form deposits on the surface of engine components and that fuel detergents or "deposit control" additives to prevent or control such deposits are known in the art.

Applicants argue

the diesel fuel of Pedersen contains an aromatics content less than about 15 vol.%, see Pedersen col. 5, lines 16-18. This limitation is outside of the presently claimed range of about 15 to about 35 wt.%. Thus, Pedersen does not anticipate the presently claimed distillate fuel product. Also there is no teaching in Pedersen to make a fuel with an aromatics content that is above the less than about 15 vol.% limitation. In fact, Pedersen suggests fuels with aromatics contents lower than 15 vol.% at col. 5 line 66 through col. 6, line 9. (Remarks, pages 9 and 10).

Applicants' argument lacks merit.

The composition of Pedersen which may contain about 15 vol.% aromatics. The claimed composition may also contain about 15 vol.% aromatics.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

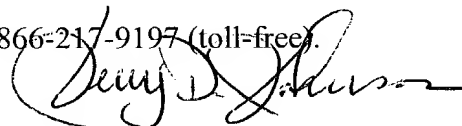
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry D. Johnson whose telephone number is (571) 272-1448. The examiner can normally be reached on 6:00-3:30, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jerry D. Johnson  
Primary Examiner  
Art Unit 1764

JDJ